

EXHIBIT A

The ability of Val-Asp-Val (VDV) peptides to reduce cell death in adult rat cardiomyocytes exposed to apoptosis-inducing agents is shown in the following Tables.

Table 1. Effect of peptides at 10^{-4} M to reduce cell death induced by hydrogen peroxide (10^{-3} M for 24 hours) in adult rat cardiomyocytes. Hydrogen peroxide induces cell death through oxidative stress. The data are the percent change in MTT absorbance compared to control diluent (no hydrogen peroxide).

	Diluent (0)	SVDVEY	YVDVDT	TVDVEY
Cell death	35.6 ± 13.7 N=6	21.5 ± 4.5 N=6	19.7 ± 4.7 N=6	21.9 ± 4.0 N=6
Reduction in cell death	--	39.6%	42.3%	38.5%

Table 2. Effect of peptides at 10^{-4} M to reduce cell death induced by sodium azide (10^{-3} M for 24h) in adult rat cardiomyocytes. Sodium azide induces cell death by interruption of mitochondrial metabolism. The data are the percent change in MTT absorbance compared to diluent control (no sodium azide).

	Diluent (0)	SVDVEY	YVDVDT	TVDVEY
Cell Death	10.7 ± 6.3 N=5	2.4 ± 8.4 N=5	-4.5 ± 4.2 N=5	-4.4 ± 7.9 N=5
Reduction in cell death	--	77.6%	100%	100%

METHODS

Adult rat cardiomyocytes were obtained in culture following the method of Rabkin S. W. (1993) J. Cardiovasc. Pharm. 1993; 22:S35-41. Adult rat cardiomyocytes were seeded in multiwell microtitre plates. After 72 h, cells were treated with hydrogen peroxide 10^{-4} M or sodium azide, 10^{-3} M, with or without peptide but with its diluent. MTT dye was added to each well for the last 4 hours of treatment. The reaction was stopped and the absorbance (optical density) was determined at 570 nm. Background absorbance of medium in the absence of cells was subtracted. The results are presented as the mean \pm SEM. The MTT dye is an indicator of cell viability and correlates well with cell number (Rabkin, S.W., and Kong, J.Y., (2000). Am J Physiol (Heart & Circulation). 279: H3089-3100). Thus, a reduction in MTT absorbance represents a loss of cell viability or an increase in cell death.